

A NEW *HUMBOLDTIANA* (PULMONATA: HELMINTHOGLYPTIDAE)  
FROM COAHUILA, MEXICO

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ABSTRACT

*A new species of land snail, known only from shells, is described and placed provisionally in the genus Humboldtiana (Pulmonata: Helminthoglyptidae). Humboldtiana plana differs from other known species of Humboldtiana in its greatly flattened and highly granulose shell. It is presently known only from the Sierra Santa Rosa in north-central Coahuila, Mexico.*

INTRODUCTION

The species of land snail described herein was collected by Riskind from the higher, northern slopes of the Sierra Santa Rosa, north-central Coahuila, Mexico, in 1975. Generic allocation of the species to the genus *Humboldtiana* cannot be done with certainty as living specimens have not been obtained in two collecting trips requiring strenuous climbs. The shell is much more depressed and granulose than in any known species of *Humboldtiana*. However, *Humboldtiana* is the only genus of large, banded helicacean snails known in the region and it seems likely that this species is a conchologically modified representative of the genus or of a new, related genus in the family Helminthoglyptidae.

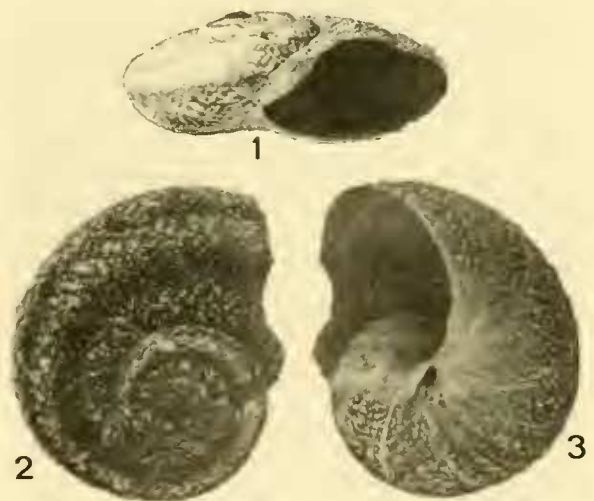
There are few published records of *Humboldtiana* from Coahuila. However, the genus has been recorded from both the extreme north (*H. taylori* Drake by Drake, 1951: 95 and by Solem, 1954: 6) and the extreme southeast (*H. nuevoleonis* Pilsbry by Pilsbry, 1948b: 192). Thus, it seems likely that the genus also occurs in many of the intervening mountain ranges in the state such as the Sierra Santa Rosa. Drake (1951: 93) assigned shells from archaeological deposits in Frightful Cave in the Cuatro Ciénegas Basin of central Coahuila to *H. montezuma* Pilsbry.

***Humboldtiana plana* new species**

Figs. 1-3

*Description of Holotype:* Shell thin, flattened, with spire rising only slightly above shoulder at

an angle of *ca.* 150°; whorls 4.1, with body whorl expanding greatly and angular peripherally; aperture elongate-lunate, its height 1.4 times its width; columellar peristome reflected, covering half of umbilicus; outer lip thin, broken; embryonic whorl smooth; second whorl with small granules in center; remainder of shell, both above and below (including umbilical area) with numerous large, whitish granules, irregularly distributed, smaller on older whorls and ranging from 0.3-0.9 mm in length (averaging *ca.* 0.5 mm) on the body whorl, some arranged in irregular rows of two to twelve granules; dark reddish-brown color of first 1½ whorls continues on as a



FIGS. 1-3. *Holotype of Humboldtiana plana* new species (4.3.6 mm diameter) in lateral, dorsal and ventral views.

band in central dorsal part of whorls  $1\frac{1}{2}$  to  $2\frac{1}{2}$ , greatly expanding thereafter to cover inner half of whorl 4, this band 10.8 mm wide at lip; two additional bands arise on first part of whorl 4, one above and one below peripheral angularity; remaining surface of shell brownish-gray except for the numerous whitish granules; internal surface of aperture dark reddish-brown, slightly iridescent. Etymology: From *planus* (L.), flat, in relation to morphology of shell.

*Variation and Measurements:* Only four relatively complete shells of *H. plana* have been obtained (numerous fragmentary specimens were observed). Part of the thin-shelled body whorl has been broken away in one paratype and some breakage has damaged the lip of the holotype, which is, otherwise, the best-preserved of the four shells. In two specimens with undamaged peristomes, the outer lip is slightly thickened and recurved and columellar peristome extends over most of the umbilicus. Probably the type died shortly before forming the thickened peristome seen in these paratypes. In one paratype the nuclear whorls are slightly more elevated than in the type. Measurements for the type (listed first) and two paratypes are as follows: Diameter of shell, 43.6, 40.1, 40.5; Height of shell, 19.8, 21.0, 18.8; Aperture width, 25.1, 25.4, 25.1; Aperture height, 17.8, 16.0, 15.5; Number of whorls, 4.1, 4.3, 4.2.

*Types:* Holotype, Delaware Museum of Natural History 106681; Paratypes: University of Arizona 6220 and University of Texas at El Paso 4651 and 4653.

*Localities of Collections:* Holotype and two paratypes (UA 6220, UTEP 4651): Mexico, Coahuila, Mpio. de Muzquiz, Sierra Santa Rosa near the summit of the Rincon de Maria ( $28^{\circ}28' N$ ;  $102^{\circ}04' W$ ). Ca. 2207 m elevation in sheltered, mesic cleft with northern exposure in a massive limestone cliff. Associated plants include such mesophytic species as the ferns *Woodsia* sp., *Polypodium erythrolepis*, the fir, *Abies coahuilensis*, and species of *Tilia*, *Philadelphus* and

*Heuchera*. Collected on 23 August 1975 by Riskind, T. Wendt and E. Lott. On 24 April 1975 a paratype (UTEP 4653) was collected by Riskind and T. Wendt on the north slope of the same mountain at an elevation of 1700 m in an area of extensive stabilized limestone talus in oak woodland (predominantly *Quercus glaucooides*).

#### COMPARISONS AND DISCUSSION

The flatness and angularity of the shell of *H. plana* is much greater than in any *Humboldtiana* known to us. The degree of granulation is extreme for the genus but may be approached by that of *H. pergranulosa* Solem from Durango. Solem (1955: 42) noted granules 0.05-0.75 mm long in *H. pergranulosa*. Illustrations (Solem, 1955: Figs. 1-3) show these to be more uniformly distributed over the surface than in *H. plana*.

Some members of the polygyrid snail genus *Ashmunella* living in talus of limestone rocks have become greatly flattened and carinate. Pilsbry (1948a: 587) quoted notes (A. G. Wetherby) indicating that the greatly flattened and carinate *Anguispira cumberlandiana* (Lea) inhabited crevices between layers of limestone rocks. Perhaps flattened shells are of adaptive value in such habitats.

#### LITERATURE CITED

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